

AMENDMENTS TO THE CLAIMS

Please amend the claims as set forth below in marked-up form. This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Previously Presented) A method for determining one or more performance metrics for a distributed application in which distributed application data are transferred from a first site to a second site over a network, comprising the steps of:

(a) enabling a user to transmit a request for the distributed application data desired by the user, said request being transmitted from the second site to the first site over the network;

(b) determining whether the distributed application data are already cached at the second site or must be transferred from the first site;

(c) if the distributed application data are not already cached at the second site, transmitting, in response to the request, the distributed application data from the first site to the second site over the network;

(d) including machine instructions that define a performance monitoring function with the distributed application data that were requested and transmitted over the network to the second site, the machine instructions and the distributed application data being a single data file;

(e) after determining whether the distributed application data are already cached at the second site, executing the machine instructions at the second site to implement the performance monitoring function used to determine the one or more performance metrics for the distributed application without using the performance monitoring function to request any distributed application data from any site, at least one of the one or more performance metrics being determined in connection with timing of events occurring during the transmission of the distributed application data to the second site;

- (f) determining a performance metric at the first site; and
- (g) combining at least one of the one or more performance metrics determined at the second site with the performance metric determined at the first site to determine a correlated performance metric.

2. (Original) The method of Claim 1, wherein the performance monitoring function at the second site is initiated after the distributed application data are accessed at the second site.

3. (Original) The method of Claim 1, further comprising the step of collecting the one or more performance metrics for the distributed application over the network.

4. (Previously Presented) The method of Claim 3, wherein the step of collecting the performance metrics includes the step of applying a probabilistic sampling parameter to determine whether performance metrics are collected from each of a plurality of sites.

5. (Original) The method of Claim 4, wherein the probabilistic sampling parameter is applied on a per-site basis.

6. (Original) The method of Claim 4, wherein the probabilistic sampling parameter is applied on a per-request basis.

7. (Currently Amended) The method of Claim 1, wherein the performance monitoring function at the second site determines one or more of:

~~(a) a fetch latency, corresponding to a time period required to fetch the distributed application data from the first site over the network;~~

~~(b)~~(a) a render latency, corresponding to a time period required to fetch and display the distributed application data at the second site;

~~(e)~~(b) a dwell latency, corresponding to a time period exhibited by a user requesting the distributed application data, before requesting other distributed application data;

~~(d)~~(c) a per-image fetch latency, corresponding to a time period for fetching a specific image referenced in the distributed application data;

~~(e)~~(d) an image arrival time, corresponding to a time at which a specific image, loaded as a part of accessing the distributed application data, arrives at the second site;

~~(f)~~(e) a navigation status, corresponding to an event that brought a user to the distributed application data;

~~(g)~~(f) a window resize event, corresponding to a determination of whether the user resized a window in which the distributed application data are accessed;

~~(h)~~(g) a page stop event, corresponding to a determination of whether the user aborted loading the distributed application data;

~~(i)~~(h) an image error event, corresponding to a determination of whether an error occurred while loading an image referenced in the distributed application data; and

~~(j)~~(i) a JavaScript error event, corresponding to a determination of whether an error occurred during interpretation of JavaScript included in the distributed application data.

8. (Original) The method of Claim 3, further comprising the step of determining whether to collect a performance metric from the second site as a function of a specific performance metric that was determined at the second site.

9. (Cancelled)

10. (Original) The method of Claim 1, wherein the distributed application data have a markup language format.

11. (Canceled)

12. (Previously Presented) The method of Claim 1, wherein said one or more performance metrics is determined without any apparent effect on the access of the distributed application data at the second site.

13-20. (Canceled)

21. (Previously Presented) A method for determining and collecting at least one performance metric related to access of a Web page by a browser program on a client device, including at least a correlated performance metric for a network, comprising the steps of:

(a) enabling a user to request transfer of the Web page from a server device to the client device over a network;

(b) determining whether the Web page was previously cached by the client device;

(c) if the Web page was not previously cached by the client device, transferring the Web page from the server device to the client device;

(d) including machine instructions with the Web page so that the Web page and the machine instructions are transferred to the client device as one data file;

(e) when the Web page is loaded by the client device for rendering by the browser program, causing the client device to execute the machine instructions that define how to carry out a browser monitoring function, said browser monitoring function being implemented without requiring any affirmative action by a user of the client device;

(f) after determining whether the Web page was previously cached by the client device, determining said at least one performance metric on the client device with the browser monitoring function without using the browser monitoring function to request any Web page from any site, at least one performance metric being determined in connection with timing of

events occurring during the transmission of the distributed application data to the client device;
and

- (g) determining a server performance metric; and
- (h) combining the server performance metric with said at least one performance metric to determine the correlated performance metric.

22. (Original) The method of Claim 21, further comprising the step of transmitting said at least one performance metric from the client device to a remote site over the network.

23. (Original) The method of Claim 22, wherein the remote site comprises a data center, further comprising the step of analyzing said at least one performance metric to determine performance data for the Web page, including the correlated performance metric.

24. (Previously Presented) The method of Claim 23, further comprising the step of enabling a determination to be made of whether said at least one performance metric will be accepted for processing by the data center, based upon a probabilistic sampling parameter.

25. (Original) The method of Claim 24, wherein the probabilistic sampling parameter is applied on a per-user basis to determine if said at least one performance metric will be accepted by the data center.

26. (Original) The method of Claim 24, wherein the probabilistic sampling parameter is applied on a per-Web page basis to determine if said at least one performance metric will be accepted by the data center.

27. (Previously Presented) The method of Claim 23, wherein a plurality of different kinds of performance metrics can be determined by the browser monitoring function, further comprising the step of enabling the data center to selectively accept a performance metric as a function of the kind of performance metric being transmitted to the data center.

28. (Original) The method of Claim 21, wherein the step of determining said at least one performance metric is done without the client device providing any indication to the user of the client device that said at least one performance metric is being determined.

29. (Currently Amended) The method of Claim 21, wherein when determining said at least one performance metric, the client device determines one or more of:

~~(a)~~ ~~a fetch latency, corresponding to a time period required to fetch a base Web page document from a server over the network;~~

~~(b)~~(a) a render latency, corresponding to a time period required to fetch and display all contents referenced within an Hypertext Markup Language (HTML) document on the client device;

~~(c)~~(b) a dwell latency, corresponding to a time period exhibited by the user viewing the Web page, before navigating to a different Web page with the browser program;

~~(d)~~(c) a per-image fetch latency, corresponding to a time period for fetching a specific image referenced in the Web page;

~~(e)~~(d) an image arrival time, corresponding to a time at which a specific image, loaded as a part of rendering the Web page, arrives on the browser;

~~(f)~~(e) a navigation status, corresponding to an event that brought the user to the Web page;

~~(g)~~(f) a cache status, corresponding to a determination of whether the Web page was cached by the browser program or by a proxy;

~~(h)~~(g) a window resize event, corresponding to a determination of whether the user resized a window in which the Web page is rendered;

~~(i)~~(h) a page stop event, corresponding to a determination of whether the user aborted loading of the Web page;

~~(j)~~(i) an image error event, corresponding to a determination of whether an error occurred while loading an image included in the Web page; and

~~(k)~~(j) a JavaScript error event, corresponding to a determination of whether an error occurred during interpretation of JavaScript included in the Web page.

30. (Cancelled)

31. (Original) The method of Claim 21, wherein said at least one performance metric comprises a performance metric for each image included in the Web page.

32. (Original) The method of Claim 21, further comprising the steps of:

(a) including a monitor cookie with the Web page that is transferred to the client device from the server device and indicates that the Web page is a monitored document;

(b) detecting the monitor cookie when the Web page is transferred to the client device; and

(c) causing the browser monitor function to determine that said at least one performance metric is to be determined for the Web page in response to the monitor cookie being detected.

33. (Previously Presented) The method of Claim 21, further comprising the steps of:

- (a) executing a server monitoring function on the server device that is transferring the Web page to the client device;
- (b) determining the server performance metric related to the transfer of the Web page to the client device from the server device with the server monitoring function; and
- (c) transmitting said server performance metric to a remote site for combination with said at least one performance metric determined by the browser monitoring function on the client device, to determine the correlated performance of the network.

34. (Previously Presented) The method of Claim 21, wherein the step of combining said at least one performance metric determined by the browser monitoring function with the server performance metric determined by the server monitoring function determines a network latency.

35. (Previously Presented) A memory medium on which are stored machine readable instructions that define a browser monitoring function, which when executed by a client computing device, cause the client computing device to carry out the browser monitoring function, said browser monitoring function being implemented without requiring any affirmative action by a user of the client computing device and being used for determining at least one performance metric on the client computing device, said at least one performance metric being related to access of a Web page by a browser program executed on the client computing device and being combined with another performance metric determined at a server computing device to determine a correlated performance metric, wherein the machine readable instructions cause the client computing device to determine whether the Web page was previously cached by the client computing device prior to determining the at least one performance metric on the client

computing device and wherein the correlated performance metric is not determined using the browser monitoring function to request any Web page from any site.

36. (Original) The memory medium of Claim 35, wherein the machine readable instructions cause said at least one performance metric to be transmitted to a remote site over a network for determination of the correlated performance metric.

37. (Original) The memory medium of Claim 35, wherein said at least one performance metric is determined without the client device providing any indication to a user of the client device that said at least one performance metric is being determined.

38. (Currently Amended) The memory medium of Claim 35, wherein the machine readable instructions determine one or more of the following performance metrics:

~~(a)~~ a fetch latency, corresponding to a time period required to fetch a base Web page document from a server over the network;

~~(b)~~(a) a render latency, corresponding to a time period required to fetch and display all contents referenced within an HTML document on the client device;

~~(c)~~(b) a dwell latency, corresponding to a time period exhibited by the user viewing the Web page, before navigating to a different Web page with the browser program;

~~(d)~~(c) a per-image fetch latency, corresponding to a time period for fetching a specific image referenced in the Web page;

~~(e)~~(d) an image arrival time, corresponding to a time at which a specific image, loaded as a part of rendering the Web page, arrives on the browser;

~~(f)~~(e) a navigation status, corresponding to an event that brought the user to the Web page;

~~(g)~~(f) a cache status, corresponding to a determination of whether the Web page was cached by the browser program or by a proxy;

~~(h)~~(g) a window resize event, corresponding to a determination of whether the user resized a window in which the Web page is rendered;

~~(i)~~(h) a page stop event, corresponding to a determination of whether the user aborted loading of the Web page;

~~(j)~~(i) an image error event, corresponding to a determination of whether an error occurred while loading an image included in the Web page; and

~~(k)~~(j) a JavaScript error event, corresponding to a determination of whether an error occurred during interpretation of JavaScript included in the Web page.

39. (Cancelled)

40. (Original) The memory medium of Claim 35, wherein said at least one performance metric includes a performance metric for each image in the Web page.

41. (Original) The memory medium of Claim 35, wherein the machine readable instructions cause the client computing device to:

(a) detect whether a monitor cookie is included with the Web page that is transferred to the client computing device, said monitor cookie indicating that the Web page is a monitored document; and

(b) cause the browser monitor function to determine that said at least one performance metric is to be determined for the Web page in response to the monitor cookie being detected.

42. (Previously Presented) A system for determining and collecting at least one performance metric related to access of a Web page by a browser program, comprising:

- (a) a memory;
- (b) a display;
- (c) a network interface; and
- (d) a processing device that is coupled to the memory, the display, and the network interface, said network interface being adapted to couple to a remote storage at a server to retrieve the Web page, said Web page including machine instructions that cause the processing device to determine if the Web page was previously cached in the memory by the processing device, the machine instructions also causing the processing device to perform, after determining whether the Web page was previously cached, a browser monitoring function when the Web page is loaded by the processing device for rendering in the display, said browser monitoring function determining said at least one performance metric and being implemented without requiring any affirmative action by a user of the processing device and without using the browser monitoring function to request any further download from any site, said at least one performance metric being combined with another performance metric determined at the server to determine a correlated performance metric.

43. (Original) The system of Claim 42, wherein the machine instructions further cause the processing device to transmit said at least one performance metric from the processing device to a remote site over a network through the network interface.

44. (Original) The system of Claim 43, further comprising a computing device disposed remotely at a data center, said computing device receiving and analyzing said at least

one performance metric to determine performance data for the Web page, said performance data including the correlated performance metric for the network.

45. (Original) The system of Claim 44, wherein a determination of whether said at least one performance metric will be accepted for processing by the data center is based upon a probabilistic sampling parameter, ensuring that performance metrics transmitted to the data center are randomly sampled.

46. (Original) The system of Claim 45, wherein the probabilistic sampling parameter is applied on a per-user basis to determine if said at least one performance metric is accepted for processing by the data center.

47. (Original) The system of Claim 45, wherein the probabilistic sampling parameter is applied on a per-Web page basis to determine if said at least one performance metric will be accepted for processing by the data center.

48. (Original) The system of Claim 44, wherein a plurality of different kinds of performance metrics can be determined by the browser monitoring function, and wherein the data center selectively accepts said at least one performance metric, based upon a specific kind of performance metric that is being transmitted to it for processing.

49. (Original) The system of Claim 42, wherein said at least one performance metric is determined by the processing device without providing any indication to a user of the processing device that said at least one performance metric is being determined.

50. (Currently Amended) The system of Claim 42, wherein said at least one performance metric includes one or more of:

~~(a)~~ a fetch latency, corresponding to a time period required to fetch a base Web page document over the network;

~~(b)~~(a) a render latency, corresponding to a time period required to fetch and render all contents of the Web page on the display;

~~(e)~~(b) a dwell latency, corresponding to a time period exhibited by a user viewing the Web page, before navigating to a different Web page;

~~(d)~~(c) a per-image fetch latency, corresponding to a time period for fetching a specific image referenced in the Web page;

~~(e)~~(d) an image arrival time, corresponding to a time at which a specific image, loaded as a part of rendering the Web page, arrives for rendering on the display;

~~(f)~~(e) a navigation status, corresponding to an event that brought a user to the Web page;

~~(g)~~(f) a cache status, corresponding to a determination of whether the Web page was cached in the memory by a browser program or by a proxy;

~~(h)~~(g) a window resize event, corresponding to a determination of whether a user resized a window in which the Web page is rendered on the display;

~~(i)~~(h) a page stop event, corresponding to a determination of whether a user aborted loading of the Web page;

~~(j)~~(i) an image error event, corresponding to a determination of whether an error occurred while loading an image included in the Web page; and

~~(k)~~(j) a JavaScript error event, corresponding to a determination of whether an error occurred during interpretation of JavaScript included in the Web page.

51. (Cancelled)

52. (Original) The system of Claim 42, wherein said at least one performance metric comprises a performance metric for each image included in the Web page.

53. (Original) The system of Claim 42, wherein the machine instructions further cause the processing device to:

(a) detect whether a monitor cookie is included with the Web page, said monitor cookie indicating that the Web page is a monitored document; and

(b) cause the processing device to determine that said at least one performance metric is to be determined for the Web page in response to the monitor cookie being detected.

54. (Original) The system of Claim 44, further comprising:

(a) a server computing device that is remote from the processing device and coupled in communication with the processing device and with the data center over a network through the network interface, said server computing device executing a server monitoring function in regard to transferring the Web page to the processing device over the network;

(b) said server computing device determining a server performance metric related to the transfer of the Web page to the processing device from the server computing device; and

(c) said server computing device transmitting said server performance metric to the data center site for processing.

55. (Original) The system of Claim 54, wherein the data center combines a performance metric determined by the browser monitoring function executed by the processing device with the server performance metric determined by the server computing function to determine the correlated performance metric.

56. (Original) The system of Claim 54, further comprising a caching proxy disposed between the server computing device and the processing device, said caching proxy executing a caching proxy monitoring function that determines at least one performance metric related to a performance of the caching proxy.

57-61. (Canceled)

62. (Previously Presented) A method for determining and collecting at least one performance metric related to access of a Web page by a browser program on a client device, comprising:

(a) enabling a user to request transfer of the Web page from a server device to the client device over a network;

(b) determining whether the Web page was previously cached by the client device;

(c) if the Web page was not previously cached by the client device, transferring the Web page from the server device to the client device;

(d) including machine instructions with the Web page so that the Web page and the machine instructions are transferred to the client device as one data file, the machine instructions performing a browser monitoring function when executed by the client device, the browser monitoring function being implemented without requiring any affirmative action by a user of the client device and without requesting any distributed application data from any site, the browser monitoring function determining, after the step of determining whether the Web page was previously cached by the client device, at least one performance metric on the client device;

(e) determining a server performance metric; and

(f) combining the server performance metric with said at least one performance metric to determine a correlated performance metric for the network.

63. (Previously Presented) The method of Claim 62, further comprising the step of transmitting said at least one performance metric from the client device to a remote site over the network.

64. (Previously Presented) The method of Claim 62, further comprising the step of enabling a determination to be made of whether said at least one performance metric will be accepted for processing by a data center based upon a probabilistic sampling parameter.

65. (Previously Presented) The method of Claim 62, wherein a plurality of different kinds of performance metrics can be determined by the browser monitoring function, further comprising the step of enabling the data center to selectively accept a performance metric as a function of the kind of performance metric being transmitted to the data center.

66. (Currently Amended) The method of Claim 62, wherein the at least one performance metric includes at least one of:

~~(a)~~ a fetch latency, corresponding to a time period required to fetch a base Web page document from a server over the network;

~~(b)~~(a) a render latency, corresponding to a time period required to fetch and display all contents referenced within an Hypertext Markup Language (HTML) document on the client device;

~~(e)~~(b) a dwell latency, corresponding to a time period exhibited by the user viewing the Web page, before navigating to a different Web page with the browser program;

~~(d)~~(c) a per-image fetch latency, corresponding to a time period for fetching a specific image referenced in the Web page;

~~(e)~~(d) an image arrival time, corresponding to a time at which a specific image, loaded as a part of rendering the Web page, arrives on the browser;

~~(f)~~(e) a navigation status, corresponding to an event that brought the user to the Web page;

~~(g)~~(f) a cache status, corresponding to a determination of whether the Web page was cached by the browser program or by a proxy;

~~(h)~~(g) a window resize event, corresponding to a determination of whether the user resized a window in which the Web page is rendered;

~~(i)~~(h) a page stop event, corresponding to a determination of whether the user aborted loading of the Web page;

~~(j)~~(i) an image error event, corresponding to a determination of whether an error occurred while loading an image included in the Web page; and

~~(k)~~(j) a JavaScript error event, corresponding to a determination of whether an error occurred during interpretation of JavaScript included in the Web page.

67. (Previously Presented) The method of Claim 62, wherein said at least one performance metric comprises a performance metric for each image included in the Web page.

68. (Previously Presented) The method of Claim 62, further comprising the steps of:

(a) executing a server monitoring function on the server device that is transferring the Web page to the client device;

(b) determining the server performance metric related to the transfer of the Web page to the client device from the server device with the server monitoring function; and

(c) transmitting said server performance metric to a remote site for combination with said at least one performance metric determined by the browser monitoring function on the client device, to determine the correlated performance of the network.